



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0802; Project Identifier AD-2021-01094-R; Amendment 39-22210; AD 2022-21-11]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Inc. Helicopters and Various Restricted Category Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bell Textron Inc. Model 204B, 205A, and 205A-1 helicopters and various restricted category helicopters. This AD was prompted by a report of cracked main rotor blades (MRBs). This AD requires repetitive inspections of each MRB and removing any cracked MRB from service. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Bell Textron, Inc., P.O. Box 482, Fort Worth, TX, 76101, United States; phone: (800) 363-8023; website: bellflight.com/support/. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2022-0802; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket

Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Hye Yoon Jang, Aerospace Engineer, Delegation Oversight Section, DSCO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5190; email hye.yoon.jang@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain serial-numbered Bell Textron Inc. Model 204B, 205A, and 205A-1 helicopters, and all restricted category Model HH-1K, SW205A-1, TH-1F, TH-1L, UH-1A, UH-1B, UH-1E, UH-1F, UH-1H, UH-1L, and UH-1P helicopters, with MRB part number (P/N) 204-011-250-001, -005, -009, -113, or -117 installed.

The NPRM published in the *Federal Register* on June 29, 2022 (87 FR 38686). The NPRM was prompted by reports of chordwise cracks in MRB P/N 204-011-250-113. The cracks originated from the extreme trailing edge between blade station 190 and 210; this area is currently not inspected during routine maintenance. In the NPRM, the FAA proposed to require cleaning certain areas of the upper and lower skin surfaces of each MRB with a cheesecloth. If the cheesecloth is snagged or frayed while cleaning an MRB, removing paint from the area that caused the snagging and then either visually or eddy current inspecting the area for a crack would be required. The NPRM also proposed to require wiping each MRB with isopropyl alcohol and immediately after the blade dries, inspecting the area for a dark line, which is an indication that excess alcohol is bleeding out of a crack or edge void. If there is a dark line, removing paint from the area where there is a dark line and inspecting for a crack in the skin would be required. Finally, the NPRM proposed to require removing any cracked MRB from service. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from one commenter, Salmon River Helicopters (SRH). SRH commented about allowing a pilot to accomplish the daily (before first flight of each day) inspection. The following presents the comment received on the NPRM and the FAA's response.

Comment Regarding the Before the First Flight of Each Day Inspection

SRH asked whether a pilot may accomplish the daily (before the first flight of each day) inspection. SRH stated that it has never had an issue with blade cracking between blade stations 190 and 210, and is unaware of reported accidents due to blade cracking within those stations. SRH further stated that many operators, like SRH, do not staff a mechanic every day of flight and it would be a significant disadvantage to do so.

The FAA partially agrees. The FAA agrees to allow the owner/operator (pilot) to accomplish the actions required by paragraph (g)(1)(i) of this AD because it only involves cleaning with a cheesecloth and visually checking for unsmooth areas and surfaces that snag the cheesecloth or cause it to fray. These actions could be performed equally well by a pilot or a mechanic, and is an exception to the FAA's standard maintenance regulations. The FAA disagrees with a pilot accomplishing the remaining required actions because those actions must be accomplished by a mechanic that meets the requirements of 14 CFR part 65 subpart D.

Conclusion

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information

The FAA reviewed the following Bell Alert Service Bulletins (ASBs), each Revision A and dated October 12, 2018, and for helicopters with MRB P/N 204-011-250-001, -005, -009, -113, or -117:

- Bell ASB 204-96-49 for Model 204B helicopters, serial numbers (S/N) 2001 through 2070 and 2196 through 2199 and
- Bell ASB 205-96-67 for Model 205A and 205A-1 helicopters, S/N 30001 through 30332.

The FAA also reviewed Bell ASB UH-1H-18-20, dated October 23, 2018, for all Model UH-1H helicopters with MRB P/N 204-011-250-113 installed.

These service bulletins specify procedures for daily wipe down inspections and 25-hour inspections of the MRBs for cracks.

Costs of Compliance

The FAA estimates that this AD affects 682 helicopters of U.S. registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Each MRB inspection takes about .5 work-hour and parts cost \$50 for an estimated cost of \$93 per helicopter and \$63,426 for the U.S. fleet, per inspection cycle.

Replacing an MRB, if required, takes about 10 work-hours and parts cost about \$157,815 per blade for an estimated cost of \$158,665 per MRB replacement.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-21-11 Bell Textron Inc., and Various Restricted Category Helicopters:

Amendment 39-22210; Docket No. FAA-2022-0802; Project Identifier AD-2021-01094-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following helicopters with main rotor blade (MRB) part

number 204-011-250-001, -005, -009, -113, or -117 installed:

(1) Bell Textron Inc. Model 204B helicopters, serial numbers (S/N) 2001 through 2070 and 2196 through 2199, inclusive, certificated in any category;

(2) Bell Textron Inc. Model 205A, and 205A-1 helicopters, S/N 30001 through 30332, inclusive, certificated in any category; and

(3) Various restricted category helicopters:

(i) Model HH-1K helicopters; current type certificate holders include, but are not limited to, Rotorcraft Development Corporation;

(ii) Southwest Florida Aviation International, Inc., Model SW205A-1 helicopters;

(iii) Model TH-1F helicopters; current type certificate holders include, but are not limited to, Robinson Air Crane Inc.; Rotorcraft Development Corporation; and Tamarack Helicopters, Inc.;

(iv) Model TH-1L helicopters; current type certificate holders include, but are not limited to, Bell Textron Inc.; Overseas Aircraft Support, Inc.; and Rotorcraft Development Corporation;

(v) Model UH-1A helicopters; current type certificate holders include, but are not limited to, Richards Heavylift Helo, Inc.;

(vi) Model UH-1B helicopters; current type certificate holders include, but are not limited to, International Helicopters, Inc.; Overseas Aircraft Support, Inc.; Red Tail Flying Services, LLC; Richards Heavylift Helo, Inc.; Rotorcraft Development Corporation; Southwest Florida Aviation International, Inc.; and WSH, LLC (type certificate previously held by San Joaquin Helicopters);

Note 1 to paragraph (c)(3)(vi): Helicopters with an SW204 or SW204HP designation are Southwest Florida Aviation International, Inc., Model UH-1B helicopters.

(vii) Model UH-1E helicopters; current type certificate holders include, but are not limited to, Bell Textron Inc.; Overseas Aircraft Support, Inc.; Rotorcraft Development Corporation; Smith Helicopters; and West Coast Fabrications;

(viii) Model UH-1F helicopters; current type certificate holders include, but are not limited to, AST, Inc.; California Department of Forestry; Robinson Air Crane, Inc.;

Rotorcraft Development Corporation; and Tamarack Helicopters, Inc.;

(ix) Model UH-1H helicopters; current type certificate holders include, but are not limited to, Arrow Falcon Exporters, Inc.; Global Helicopter Technology, Inc.; Haggglund Helicopters, LLC; JJASPP Engineering Services LLC; Northwest Rotorcraft, LLC; Overseas Aircraft Support, Inc.; Richards Heavylift Helo, Inc.; Rotorcraft Development Corporation; Southwest Florida Aviation International, Inc.; and Tamarack Helicopters, Inc.;

Note 2 to paragraph (c)(3)(ix): Helicopters with an SW205 designation are Southwest Florida Aviation International, Inc., Model UH-1H helicopters.

(x) Model UH-1L helicopters; current type certificate holders include, but are not limited to, Bell Textron Inc.; Overseas Aircraft Support, Inc.; and Rotorcraft Development Corporation; and

(xi) Model UH-1P helicopters; current type certificate holders include, but are not limited to, Robinson Air Crane, Inc.; and Rotorcraft Development Corporation.

(d) Subject

Joint Aircraft System Component (JASC) Code: 6210, Main rotor blades.

(e) Unsafe Condition

This AD was prompted by a report of cracks on the MRBs outside of the current inspection area. The FAA is issuing this AD to prevent a failure of an MRB. The unsafe condition, if not addressed, could result in loss of an MRB and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) As of the effective date of this AD, before the first flight of each day:

(i) Using cheesecloth, clean the upper and lower skin surfaces of each MRB in the area between blade stations 100 through 215, noting any unsmooth areas and paying attention to the trailing edge and any MRB surface which snag the cheesecloth or cause it to fray, as this may be an indication of a crack or paint chip that could lead to corrosion.

(ii) The actions required by paragraph (g)(1)(i) of this AD may be performed by

the owner/operator (pilot) holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417, 121.380, or 135.439.

(iii) If there is any unsmooth area or the cheesecloth used to clean the MRB is snagged or frayed, remove paint from the area that is unsmooth or caused the snagging or fraying (affected area) by hand sanding in a spanwise direction with an abrasive cloth or sandpaper 220 or smoother grit and either:

(A) Visually inspect the affected area for any crack using a 10X or higher power magnifying glass with a flashlight applied at an oblique angle and perpendicular to the crack orientation; or

(B) Eddy current inspect the affected area for any crack using a surface probe.

(iv) If there is any crack, before further flight, remove the MRB from service.

(2) As of the effective date of this AD, at intervals not to exceed 25 hours time-in-service, prepare the upper and lower skin surfaces of each MRB for inspection by wiping the last 4 inches of the trailing edge between blade station 100 and 215 with an isopropyl alcohol-soaked cloth and then drying the area with a clean cloth. Immediately after drying the area, using a flashlight at an oblique angle, inspect the surface for a dark line, as this is an indication that excess isopropyl alcohol is bleeding out of a crack or edge void. If there is a dark line, remove paint from the area where there is a dark line by hand sanding in a spanwise direction with an abrasive cloth or sandpaper 220 or smoother grit and inspect for a crack in the skin. If there is any crack, before further flight, remove the MRB from service.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, DSCO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i) of this

AD. Information may be emailed to: 9-ASW-190-COS@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

For more information about this AD, contact Hye Yoon Jang, Aerospace Engineer, Delegation Oversight Section, DSCO Branch, Compliance & Airworthiness Division, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5190; email hye.yoon.jang@faa.gov.

(j) Material Incorporated by Reference

None.

Issued on October 4, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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